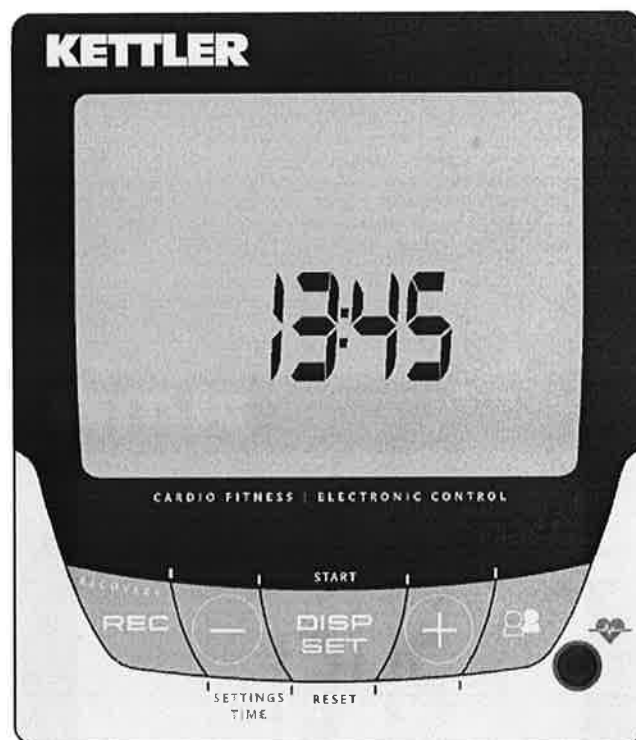


KETTLER

FB601/610


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GOLF M
UNIX M/MX



Training and Operating Instructions



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Safety instructions

Please observe the following instructions for your own safety:

- The training device must be set up on an appropriate and firm surface.
- Inspect the connections for firm fitting before initial operation and additionally after approximately six operation days.
- In order to prevent injuries caused by wrong stress or over-stress, the training device may only be used in accordance with the instructions.
- It is not recommended to permanently set up the device in humid rooms due to the resulting corrosion development.
- Assure yourself regularly that the training device functions properly and that it is in duly condition.
- The operator is responsible for the safety controls, which have to be carried out on a regular and proper basis.
- Defective or damaged parts must be exchanged immediately. Only use original KETTLER spare parts.
- The device may not be used until after repairs are completed.
- The safety level of the device can only be maintained provided that it is regularly inspected for damage and wear and tear.

For your safety:

- Please clarify with your general practitioner before you start with the training, whether or not your health condition allows you to train with this device. The diagnostic findings should be the basis for the determination of your training programme. Wrong or excessive training can cause damage to your health.

Description

The electronics assembly has the following functions:

- 2 personal memories for:
Training kilometres and time
Training presetings
Display of last training with average and maximum values
- KJoule/km/h or kcal/m/h settings
- Calculation of energy consumption depending on speed and braking level

Function range

The five buttons will be described in short below.

DISP-SET (press shortly)

- Switches from time display to ready for training.
- Switches to next input or display.
Settings or values will be accepted.

Settings or values will be accepted.

DISP-SET (press longer) RESET

- Deletes display for a reset.
Only possible in standstill.

Minus – / Plus +

With these function buttons, you can change the values in the different input data before the start of the training

- Press longer > fast run through the values
- Press "Plus" and "Minus" **together**: input data will be reset)

Minus – (press shortly when time is displayed)

- Display of last training data (MEM) and total kilometres (ODO)

Minus – (press longer when time is displayed)

- Set time (TIME)
- Switch from ME to IM (SETTINGS)
ME = [24h], [KJoule], [kilometres] -display
IM = [12h], [Kcal], [miles] -display
- Activate Save training presetings.

REC (recovery pulse with fitness mark)

By pressing this function button, the recovery pulse function is started and a fitness grade is calculated.

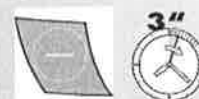
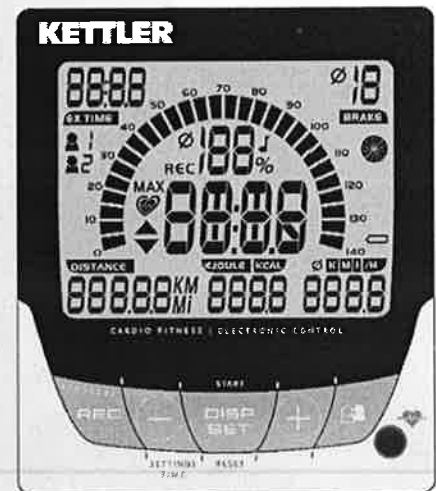
Persons

- Display of training kilometres and time of person 1 or person 2.
- Display of previous training data.

Measuring the pulse

The measurement of the pulse can be carried out by means of 3 sources:

1. Ear clip - The plug is put into the socket.
2. Chest strap without plug-in. In this electronic unit, the receiver is built in behind the display. A plugged-in ear clip must be removed. The Polar chest strap is available as an accessory (item no. 67002000).
3. Hand pulse - The connection is situated at the back of the display;



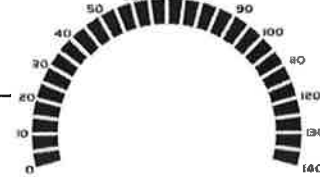
Training and Operating Instructions

Indicating range / Display

The display provides information on different functions.

Pedalling frequency (RPM)

10 - 140 [1/min]
1 Segment = 5 [1/min]



PULSE



Display of average value

RECOVERY function RECOVERY

Maximum Pulse

Warning (flashes) max. pulse +1

Heart symbol (flashes)

Target pulse limit fallen below -11

Increase pulse beat

Target pulse limit exceeded +11

Reduce pulse beat

Warning signal ON/OFF

Percentage

Actual pulse/max. pulse comparison

Display of pulse value
40 - 220 [1/min]

Percentage pulse



Warning signal ON/OFF

Percentage

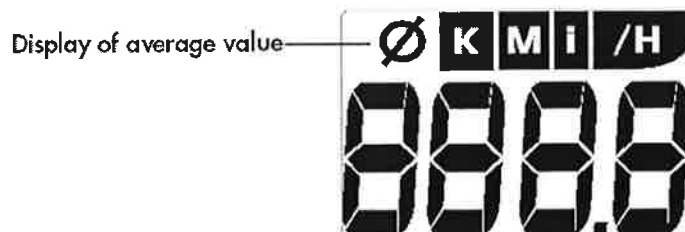
Actual pulse/max. pulse comparison

DISTANCE



Value 0,00 - 99,99

SPEED



Display of average value

Value 0 - 99,9

Energy consumption

(KJOULE) or (KCAL)



Value: 0 - 9999

Time (EX.TIME)



Value: 0:00 - 99:59

Brake level (BRAKE)

Display of average value



Level 1 - 10

Battery charge



Battery power too low for pulse measurement.
Change battery.

Display values

The example displays show the operation as home trainer.
If the revolutions per minute correspond to the example displays
the values for speed and distance are lower for cross trainers.
At 60 min-1 (RPM)
Home trainers: = 21,3 km/h
Cross trainers: = 9,5 km/h

Settings

Time

- **Minus -** (press longer when time is displayed)
Hours flash
- **Press Minus - / Plus +**
Set hour
- Press **DISP SET**
Minutes flash
- **Press Minus - / Plus +**
Set minutes
- **DISP SET**
- **Press Minus - / Plus +**
Set to **IM** or **ME**
ME = [24h], [KJoule], [kilometres] -display
or
IM = [12h], [Kcal], [miles] -display
- Press **DISP SET**
Activate presetting memory for person 1
- **Press Minus - / Plus +**
Activate memory for person 1. [**STORE**]
As soon as **STORE** is activated, the training presets
time, distance, energy and pulse monitoring are stored
and displayed for each new training.
- Press **DISP-SET**
Activate presetting memory for person 2
- **Press Minus - / Plus +**
Activate memory for person 2. [**STORE**]
As soon as **STORE** is activated, the training presets
time, distance, energy and pulse monitoring are stored
and displayed for each new training.
- Press **DISP-SET**
Time is displayed



Training

1. Training without presetting / Pulse measurement / Readiness for training

- Press **DISP** button
Person 1 is displayed.
The readiness for training is displayed with 0 values.
A pulse value is displayed as soon as a pulse signal is identified on the ear clip, hand pulse or plug recipient.
A braking level is indicated.

and / or

- **Peddalling**
„EX.TIME“ Exercise time, „DISTANCE“, energy consumption and speed are displayed in increasing order.
Pedal revolutions are displayed.
Animation wheel is active.

2. Training with presettings/pulse monitoring

It is possible to enter time, distance and energy presettings. When the training is started, these values count down in reverse. If zero is reached, the display flashes and a signal is emitted. Then the presetting value counts up.

When the pulse function is activated, pulse can be monitored displaying a pulse range with deviations of +/- 10 beats as well as a maximum pulse deviation which is signalled by a warning signal.

Selection of persons

The electronic system has 2 personal memories which allow for 2 exercising persons to enter different training presettings. This makes sense if the training shall always be carried out using the same presettings. Thus it is not necessary any more to enter the presettings before starting the training.

The total training time and kilometres are also stored under person 1 and 2.

For activation you must press Activate **[STORE]** presettings/memory for person

- Press "persons": selection of persons

Display: "Person 1 flashes, total training time and kilometres"

- Switch person pressing "Plus" or "Minus"
- Confirm person with "DISP/SET"

Time presettings (EX.TIME)

- Enter values using "Plus" or "Minus" (e.g. 30:00)
Confirm with "DISP/SET".

Display: next menu "DISTANCE"

Distance presettings (DISTANCE)

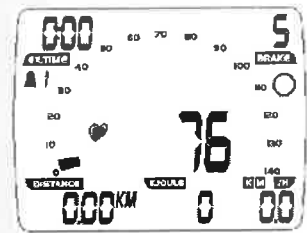
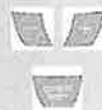
- Enter values using "Plus" or "Minus" (e.g. 7.50)
Confirm with "DISP/SET"

Display: next menu "Age"

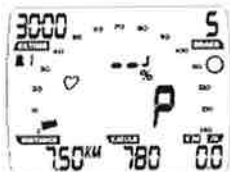
Energy presettings (KJOULE/KCAL)

- Enter values using "Plus" or "Minus" (e.g. 780)
Confirm with "DISP/SET".
- Select kJoule or kcal unit using "Plus" or "Minus".
Confirm "DISP/SET".

Display: next menu "Age"



Training and Operating Instructions




Age entry (AGE)

Entering the age allows for the determination and monitoring of the maximum pulse (MAX symbol, warning signal, if activated).

- Enter values using "Plus" or "Minus" (e.g. 50). This will result in a maximum pulse of 170 when entering the relation (220 - age). Confirm with "DISP/SET".

Display: next menu "Warning signal"

Warning signal when maximum pulse is exceeded.

- Select function with symbol  using "Plus" or "Minus". Confirm with "DISP/SET".

Display: next menu target pulse selection "FA 65%"

Target pulse monitoring FA 65% / FI 75%

- Select using "Plus" or "Minus"
- Fat burning 65%, fitness 75% of maximum pulse. Confirm with "DISP/SET" (presetting mode completed)

Display: Readiness for exercise using the presets

or

Target pulse entry

Entering the values 40 – 199 allows for the determination and monitoring of the training pulse irrespective of age (HI symbol, warning signal if activated, no maximum pulse monitoring).

For this purpose, age entry must be switched to "OFF".

- Deselect maximum pulse monitoring using "Plus" and "Minus". *Display:* "AGE OFF". Confirm with "DISP/SET".

Display: next presetting "Target pulse"

- Enter value using "Plus" or "Minus" (e.g. 130). Confirm with "DISP/SET" (presetting mode completed)

Display: Readiness for training using presets

- Pedalling. The presets are counted in decreasing order.

Training interruption/end of training

With less than 10 pedal rotations per minute, the electronics assembly of the training device identifies a training interruption. The animation wheel is displayed empty. The achieved training data are displayed.

Rotations, pulse, speed and brake level are displayed as average value using the \emptyset symbol.

The training data are displayed for 4 minutes. If you do not press any button nor train during this period of time, the electronics assembly of the training device switches to standby mode and displays the time.

Resumption of training

If you resume training within 4 minutes, the last values continue to be counted up or down.

RECOVERY function

Recovery pulse measurement

Press "RECOVERY" at the end of training

Display: REC

The pulse value is stored (P1).

The current pulse is still displayed.

The electronics assembly of the training device measures your pulse 60 seconds in reverse.

The pulse value after 60 seconds (P2) is stored.

The pulse difference (P1-P2) is displayed

From this value, a fitness mark (F 4.8 for this example) is determined.

The display is completed after 20 second.

"RECOVERY" interrupts the recovery pulse function or the fitness mark display.

If no pulse is measured in the beginning or at the end of the reverse counting, the error message "Err" is displayed.

Display of previous training with average and maximum values

- Press "Persons": selection of persons

Display: "Person 1 flashes, total training time and kilometres"

- Switch persons using "Plus" or "Minus"
- Press "Persons" once more:

Display: Average values of pulse, % pulse, RPM, km/h and brake level of the previous training are displayed with the [Ø] symbol.

- Press "DISP/SET"

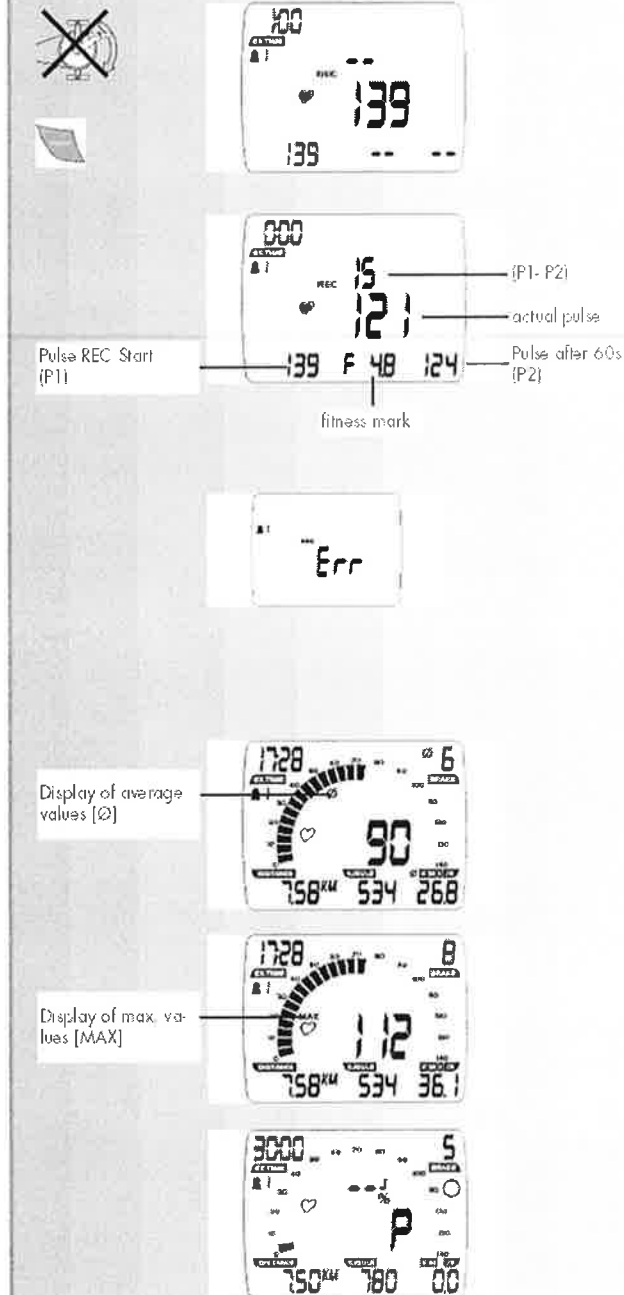
Display: Average values of pulse, % pulse, RPM, km/h and brake level of the previous training are displayed with the [MAX] symbol.

- Press "DISP/SET"

Display: Readiness for training with or without presets.

Comment

The last training values only refer to the previous training unit. The values are stored by "RESET" or by the activation of the stand-by mode with time display deleting previous values.



Training and Operating Instructions

General instructions

System signals

Activation of the device

If you activate the device, a signal is emitted during the segment test.

Presetting

A short signal is emitted, if you reach a presetting such as time, distance and KJoule/ kcal.

Maximum pulse exceeding

If the preset maximum pulse is exceeded by one pulse beat, 2 short signals are emitted for the time.

Recovery

Calculation of the fitness mark (F):

$$\text{mark (F)} = 6.0 - \left(\frac{10 \times (P1 - P2)}{P1} \right)^2$$

P1 stress pulse

P2 = recovery pulse

Grade 1 = very good

Grade 6 = insufficient

Calculation of average value

The calculations of the average values refer to training units in the past until a reset or the stand-by mode.

Instructions for pulse measurement

The pulse measurement starts as soon as the heart in the display blinks in time with your pulse beat.

With ear clip

The pulse sensor works with infrared light and measures the variations in translucence in your skin, which are produced by your pulse beat. Rub your ear ten times strongly to activate the blood circulation before attaching the pulse sensor to your earlobe.

Avoid disturbing pulses.

- Attach the ear clip properly to your earlobe and look for the best point for the measurement (heart symbol blinks without interruption).
- Do not train directly under strong incidence of light, e.g. neon light, halogen light, spotlights, sun light.
- Completely eliminate any shocks or bounces of the ear sensor and the cable. Always attach the cable with a clip at your clothing or, even better, at your headband.

With breast clip

Please observe the corresponding instructions.

With hand pulse

An extra-low voltage caused by the contractions of your heart is registered by the hand sensors and evaluated by the electronics assembly of the device

- Always grab the contact faces with both hands
- Avoid jerky grasping
- Hold your hands calmly and avoid contractions and rubbing on the contact faces.

Comment:

Only one way of pulse measurement is possible: either with ear clip or with hand pulse or with breast belt. If no ear clip or plug recipient is located in the pulse plug, hand pulse measurement is activated. If you insert an ear clip or a plug recipient in the pulse plug, hand pulse measurement is automatically deactivated. It is **not** necessary to disconnect the plug of the hand pulse measurement.

Battery change

If the battery symbol occurs in the display, battery power is too low for pulse measurement. Training kilometres and time as well as all presettings will get lost. Time must be reset.

Brake level display

Brake setting is classified in level 1-10. If this classification is disturbed or lost, you must restore it as follows:

- Check whether the 3-pole connecting cable is plugged in at the back of the display.
- Insert batteries and press the "DISP/SET" button until the segment test is completed.
- Turn back hand lever to minimum setting and press the "DISP/SET" button when 0%, BRAKE 0 is displayed.
- Pre-turn hand lever to maximum setting and press the "DISP/SET" button when 100%, BRAKE 10 is displayed.

The process is completed.

Training instructions

Sports medicine and training science use cycle ergometry, among other things, for the examination of the functional capability of heart, circulation and respiratory system.

You can find out whether or not you have achieved the desired effect from your training after several weeks using the following method:

1. You manage a particular endurance performance with less heart / circulation performance than previously
2. You sustain a particular endurance performance with the same heart / circulation performance over a longer period.
3. You recover more quickly than previously after a particular heart / circulation performance.

Guide values for the endurance training

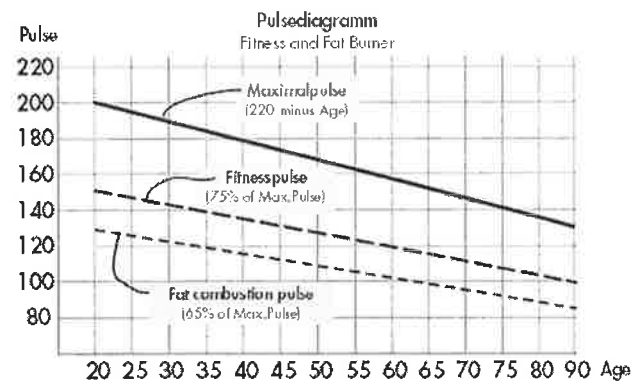
Maximal pulse: maximum strain means the reaching of the individual maximum pulse. The maximum achievable heart rate is dependant on age.

Here the following empirical formula applies: the maximum heart rate per minute corresponds to 220 heart beats minus age in years.

Example: age 50 years -> 220 - 50 = 170 pulse/min.

Load intensity

Load pulse: the optimum intensity of load is reached at 65-75 % (see also diagram) of the maximum pulse. This value changes depending on age.



Extent of load

Duration of a training unit and its frequency per week:

The optimum extent of load is attained, if 65–75 % of the individual heart / circulation performance is achieved over a longer period.

Training frequency	Duration of training
daily	10 minutes
2–3 times a week	20–30 minutes
1–2 times a week	30–60 minutes

Beginners should not begin with training units of 30-60 minutes. The beginner's training can be planned as follows in the first 4 weeks:

Training frequency	Extent of training session
1st week	
3 times a week	2 minutes of training
	Break of 1 minute for physical exercises
	2 minutes of training
	Break of 1 minute for physical exercises
2nd week	
3 times a week	3 minutes of training
	Break of 1 minute for physical exercises
	3 minutes of training
	Break of 1 minute for physical exercises
3rd week	
3 times a week	4 minutes of training
	Break of 1 minute for physical exercises
	4 minutes of training
	Break of 1 minute for physical exercises
4th week	
3 times a week	5 minutes of training
	Break of 1 minute for physical exercises
	4 minutes of training
	Break of 1 minute for physical exercises
4th week	
3 times a week	5 minutes of training
	Break of 1 minute for physical exercises
	4 minutes of training
	Break of 1 minute for physical exercises

It is recommended that you perform approx. 5 minutes of exercises before and after every training unit, in order to warm up and cool down. There should be a training-free day between each two consecutive training units, if you prefer training sessions of 20-30 minutes 3 times a week later on in your training. Otherwise, there is no reason why you should not train daily.

Glossary

Age

Entry for the calculation of the maximum pulse.

Dimension

Units for the display of km/h or mi/h, kJoule or kcal.

Fat burning pulse

Calculated value of 65% max. pulse

Fitness pulse

Calculated value of 75% max. pulse

Glossary

A collection of attempted explanations.

HI symbol

If "HI" is displayed, the target pulse is exceeded by 11 beats.

If "HI" flashes, the maximum pulse is exceeded. "HI" monitoring is always activated.

LO symbol

If "LO" is displayed, the target pulse is fallen below by 11 beats.

"LO" monitoring is activated if the target pulse has been achieved in training.

MaxPulse(s)

Value calculated from 220 minus age

Menu

Display where values must be entered or selected.

Pulse

Registration of heart beats per minute